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EXAMINER	
HAN, JASON	

ART UNIT	PAPER NUMBER
2875	

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Please find below and/or attached an Office communication concerning this application or proceeding.

AK

Office Action Summary	Application No.	Applicant(s)	
	10/601,616	MCCOLLUM ET AL.	
	Examiner	Art Unit	
	Jason M. Han	2875	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *08 August 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-32,34-36,39,40,43,45-51,53-57 and 76-101* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-32,34-36,39,40,43,45-51,53-57 and 76-101* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *23 June 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *20050426*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on August 8, 2005 has been entered.

Response to Arguments

2. Applicant's arguments with respect to Claims 1-32, 34-36, 39-40, 43, 45-51, 53-57, and 76-101 have been considered but are moot in view of the new ground(s) of rejection.

Claim Objections

3. Claim 20 is objected to because of the following informalities: Applicant recites, "a plurality of the panel members", which lacks antecedent basis. Applicant is encouraged to rewrite to read "a plurality of panel members". Appropriate correction is required.

4. Numerous claims are objected to because of the following informalities: Applicant recites, "different edge or side edges", which should read as "different edges or side edges" to remain consistent and grammatically correct. Applicant is encouraged to rewrite to read "a plurality of panel members". Appropriate correction is required.

Double Patenting

5. Applicant is advised that should Claim 20 be found allowable, Claim 21 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

The following claims have been read in light of the specification, but rendered the broadest interpretation as construed by the Examiner [MPEP 2111].

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1, 3, 5-8, 20-26, 29, 34-36, 39-40, and 43 are rejected under 35 U.S.C. 102(b) as being anticipated by Hegarty (U.S. Patent 5276591).

7. With regards to Claim 1, Hegarty discloses an optical assembly including:

- At least one light emitting panel member [Figures 1: (10); 3: (315)] having:
  - = At least one input edge [Figures 1: (130); 3: proximate (310)] for receiving light from at least one light source [Figures 1: (110); 3: (320)];

= At least one pattern of individual optical deformities [Figures 1: (50); 3: (285)] on or in at least one surface area of the panel member for producing at least one light output distribution from the panel member [Figure 5];

= Whereby each of the deformities has a length and width that is quite small in relation to the length and width of the one surface area [Figure 5];

= At least some of the deformities having at least one well defined surface [Figures 1: (50, 60, 70); 3: (285, 290, 295)];

= The at least one light output distribution that is produced by the pattern of individual optical deformities having a form or shape of at least one of text, graphics, logo, or image [Figure 5];

= Wherein the optical deformities of the at least one pattern are on or in one side of the at least one panel member [Figure 3: (285)]; and

= Additional optical deformities [Figure 3: (290, 295)] are on or in the opposite side of the at least one panel member that allow different output distributions to be seen when the at least one panel member is viewed from different angles through the opposite side.

8. With regards to Claim 3, Hegarty discloses the pattern of individual optical deformities being in the shape of each element of the text, graphics, or logo [Figure 5; Abstract].

9. With regards to Claim 5, Hegarty discloses the optical deformities of the at least one pattern being varied in at least one of size, shape, density, placement, angle, rotation, or type [Figures 1-5; Column 5, Lines 24-34].

10. With regards to Claim 6, Hegarty discloses the optical deformities of the at least one pattern being varied to obtain a substantially uniform intensity of the at least one output distribution [Column 2, Lines 42-45; Column 3, Lines 25-29].

11. With regards to Claim 7, Hegarty discloses the optical deformities of the at least one pattern being varied to obtain at least one multi-intensity output distribution [Figure 3].

12. With regards to Claim 8, Hegarty discloses the at least one light source being a colored light source to obtain at least one colored output distribution [Column 1, Lines 32-41].

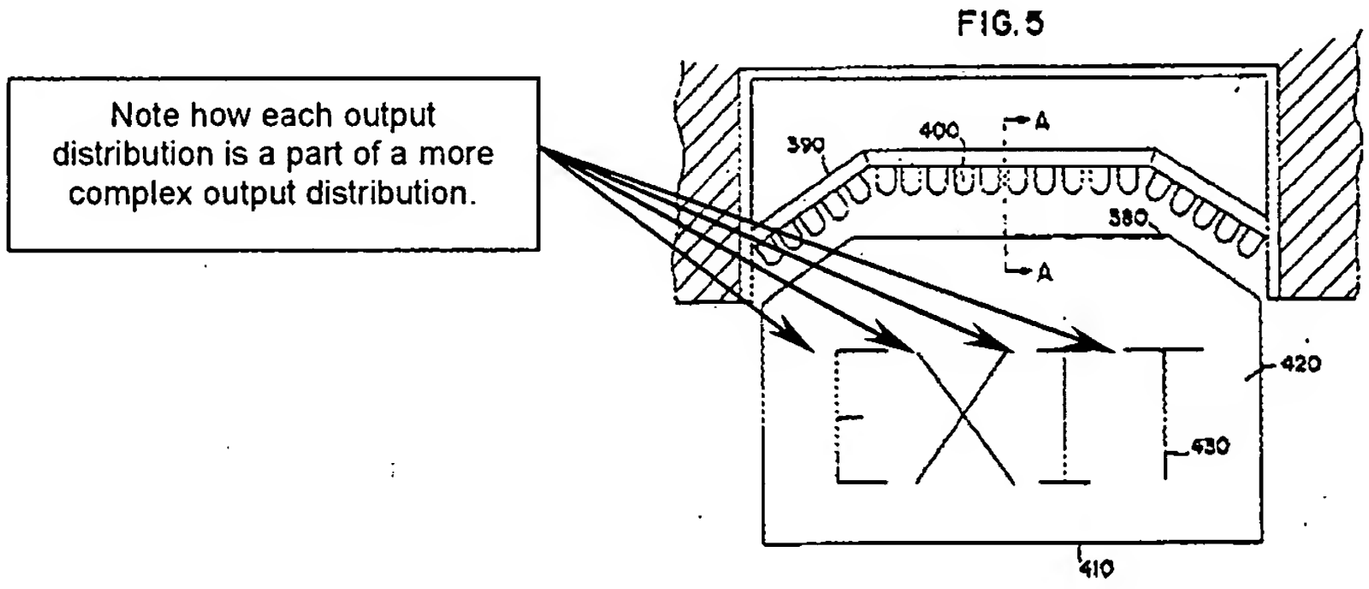
13. With regards to Claim 20, Hegarty discloses a plurality of panel member [Figure 1: (10, 20)] being in overlying relation to one another, whereby each of the panel members has at least one different light output distribution [Figure 1: (50, 60, 70)] that together produce at least one composite output distribution when viewed through the panel members from one side.

14. With regards to Claim 21, Hegarty discloses at least one other light emitting panel member [Figure 1: (20)] having different light output distribution than the one panel member [Figure 1: (10)], whereby the panel members are in overlying relation to one another for producing at least one composite output distribution when viewed through the panel members from one side [Column 5, Lines 24-34].

15. With regards to Claim 22, Hegarty discloses the other panel member having at least one output distribution in the form or shape of at least one of text, graphics, logo, or image [Figure 5; Column 5, Liens 24-34].

16. With regards to Claim 23, Hegarty discloses each of the panel members receiving light from at least one different colored light source [Figure 1: (110, 120); Column 1, Lines 32-41] to produce at least one multi-colored composite output distribution when viewed through the panel members from one side.

17. With regards to Claim 24, Hegarty discloses the output distribution of each of the panel members producing one or more parts of a more complex output distribution that is visible through the panel members from the one side [Figure 5].



18. With regards to Claim 25, Hegarty discloses the intensity of at least one output distribution of each of the panel members being different and creating at least one multi-intensity composite output distribution that is visible through the panel members from one side [Column 5, Lines 31-34].

19. With regards to Claim 26, Hegarty discloses a display [Figure 8: (530)] overlying the one side of the overlying panel members, whereby the output distributions of the overlying panel members are visible through the display.

20. With regards to Claim 29, Hegarty discloses a display [Figure 8: (530)] overlying the panel member, whereby the at least one output disitrbution of the panel member is visible through the display.

21. With regards to Claim 34, Hegarty discloses the additional optical deformities being prismatic or lenticular optical deformities [Figure 3: (285, 290, 295)].

22. With regards to Claim 35, Hegarty discloses the additional optical deformities allowing different output distributions in the form or shape of text, graphics, logo, or image to be seen when the panel member is viewed from different angles through the opposite side [Figures 5, 7; Column 5, Lines 24-34].

23. With regards to Claim 36, Hegarty discloses at least some of the deformities having at least one sloping surface [Figure 1: (50, 60, 70)] that intersects the at least one surface area [Figure 1: (150, 160)].

24. With regards to Claim 39, Hegarty discloses the at least one sloping surface being planar [Figure 1: (50, 60, 70)].

25. With regards to Claim 40, Hegarty discloses the at least one sloping surface being curved [Figure 3: (285)].

26. With regards to Claim 43, Hegarty discloses the at least one panel member having at two or more layers [Figures 1, 6, 8].

27. Claims 9-12 and 14-19 are rejected under 35 U.S.C. 102(b) as being anticipated by Hegarty (U.S. Patent 5276591).

28. With regards to Claim 9, Hegarty discloses an optical assembly including:

- At least one light emitting panel member [Figures 1: (10); 3: (315)] having:

= At least one input edge [Figures 1: (130); 3: proximate (310)] for receiving light from at least one light source [Figures 1: (110); 3: (320)];

= At least one pattern of individual optical deformities [Figures 1: (50); 3: (285)] on or in at least one surface area of the panel member for producing at least one light output distribution from the panel member [Figure 5];

= Whereby each of the deformities has a length and width that is quite small in relation to the length and width of the one surface area [Figure 5];

= At least some of the deformities having at least one well defined surface [Figures 1: (50, 60, 70); 3: (285, 290, 295)];

= The at least one light output distribution that is produced by the pattern of individual optical deformities having a form or shape of at least one of text, graphics, logo, or image [Figure 5];

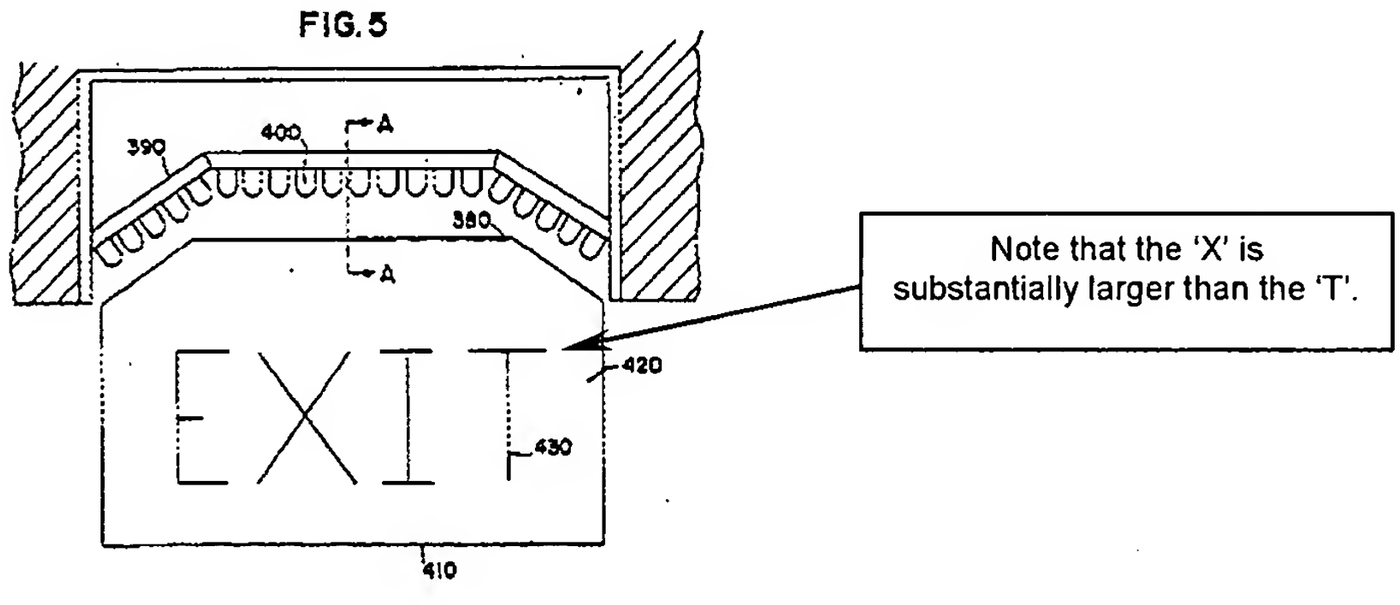
= Wherein the at least one panel member has at least two input edges [Figures 5: (380); 7: (470. 480)] at different ends or side edges of the panel member for receiving light at the different ends or side edges from at least two different light sources [Figures 5: (400); 7: (450)] to obtain the at least one output distribution.

29. With regards to Claim 10, Hegarty discloses the at least two input edges [Figures 5: (380); 7: (470. 480)] at the different ends or side edges of the panel member receiving light from different colored light sources [Figures 5: (400); 7: (450); Column 1,

Lines 32-41], and at least some of the deformities in the pattern are shaped or oriented preferentially to cause the different colored light received by the at least two input edges at the different ends or side edges to create at least one multi-colored output distribution [Figures 5, 7].

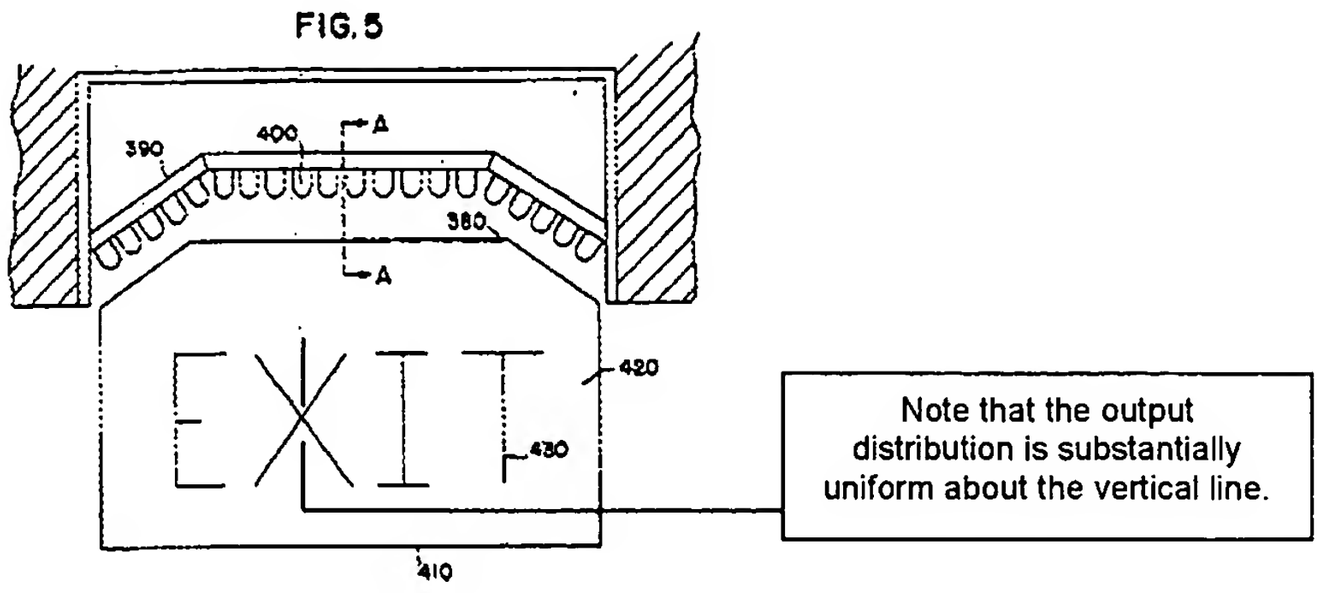
30. With regards to Claim 11, Hegarty discloses another pattern of individual optical deformities [Figure 3: (290, 295)] on or in another surface area of the at least one panel member for producing another light output distribution from the panel member.

31. With regards to Claim 12, Hegarty discloses the another output distribution being substantially larger than the one output distribution [Figure 5].

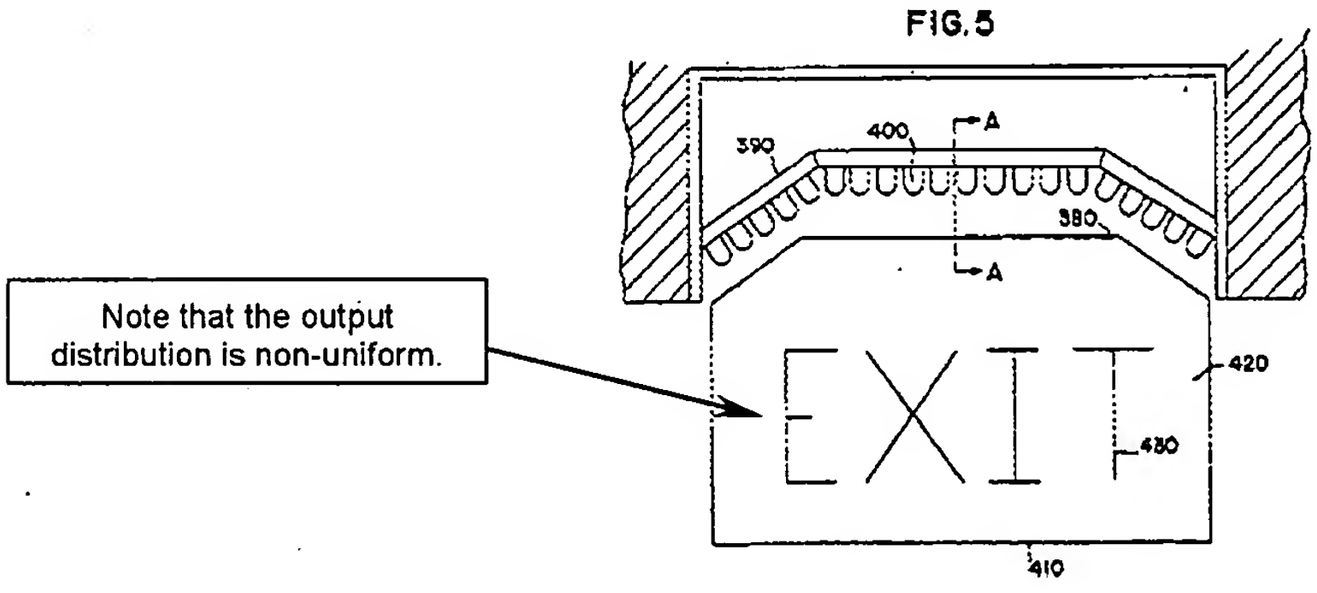


32. With regards to Claim 14, Hegarty discloses the deformities on or in the another surface area being varied in at least one of size, shape, density, placement, angle, rotation, or type [Figures 1-5; Column 5, Lines 24-34].

33. With regards to Claim 15, Hegarty discloses the deformities on or in the another surface area being varied to obtain the another output distribution that is substantially uniform [Figure 5].



34. With regards to Claim 16, Hegarty discloses the deformities on or in the another surface area being varied to obtain the another output distribution that is non-uniform [Figure 5].



35. With regards to Claim 17, Hegarty discloses the intensity of the one output distribution being greater than the intensity of the another output distribution [Column 5, Lines 31-34].

36. With regards to Claim 18, Hegarty discloses the intensity of the one output distribution being less than the intensity of the another output distribution [Column 5, Lines 31-34].

37. With regards to Claim 19, Hegarty discloses the intensity of the one output distribution varying [Column 5, Lines 31-34].

38. Claims 45-47, 53, and 56 are rejected under 35 U.S.C. 102(b) as being anticipated by Hegarty (U.S. Patent 5276591).

39. With regards to Claim 45, Hegarty discloses an optical assembly including:

- At least one light emitting panel member [Figures 1: (10); 3: (315)] having:
  - = At least one input edge [Figures 1: (130); 3: proximate (310)] for receiving light from at least two different colored light sources [Figures 1: (110, 120); 3: (320); Column 1, Lines 32-41];
  - = At least one pattern of individual optical deformities [Figures 1: (50); 3: (285)] on or in at least one surface area of the panel member for producing at least one light output distribution from the panel member [Figure 5];
  - = Whereby each of the deformities has a length and width that is quite small in relation to the length and width of the one surface area [Figure 5];
  - = The at least one light output distribution that is produced by the pattern of individual optical deformities having a form or shape of at least one of text, graphics, logo, or image [Figure 5];
  - = Wherein the optical deformities of the at least one pattern are on or in one side of the at least one panel member [Figure 3: (285)]; and
  - = Additional optical deformities [Figure 3: (290, 295)] are on or in the opposite side of the at least one panel member that allow different

output distributions to be seen when the at least one panel member is viewed from different angles through the opposite side.

40. With regards to Claim 46, Hegarty discloses the different colored light sources being different colored light emitting diodes [Column 1, Lines 32-41].

41. With regards to Claim 47, Hegarty discloses the different colored light sources being light emitting diodes having different semiconductor composition or chips [Column 1, Lines 32-41].

42. With regards to Claim 53, Hegarty discloses the additional optical deformities being prismatic or lenticular optical deformities [Figure 3: (285, 290, 295)].

43. With regards to Claim 56, Hegarty discloses a display [Figure 8: (530)] overlying the at least one panel member, whereby the at least one output disitrbution of the panel member is visible through the display.

44. Claims 49-50 are rejected under 35 U.S.C. 102(b) as being anticipated by Hegarty (U.S. Patent 5276591).

45. With regards to Claim 49, Hegarty discloses an optical assembly including:

- At least one light emitting panel member [Figures 1: (10); 3: (315)] having:
  - = At least one input edge [Figures 1: (130); 3: proximate (310)] for receiving light from at least two different colored light sources [Figures 1: (110, 120); 3: (320); Column 1, Lines 32-41];
  - = At least one pattern of individual optical deformities [Figures 1: (50); 3: (285)] on or in at least one surface area of the panel member for

producing at least one light output distribution from the panel member [Figure 5];

= Whereby each of the deformities has a length and width that is quite small in relation to the length and width of the one surface area [Figure 5];

= The at least one light output distribution that is produced by the pattern of individual optical deformities having a form or shape of at least one of text, graphics, logo, or image [Figure 5];

= Wherein the at least one panel member has at least two input edges [Figures 5: (380); 7: (470. 480)] at different ends or side edges of the panel member for receiving light at the different ends or side edges from at least two different light sources [Figures 5: (400); 7: (450)] to obtain the at least one output distribution.

46. With regards to Claim 50, Hegarty discloses at least some of the deformities in the pattern being shaped or oriented preferentially to cause the different colored light received by the at least two input edges at the different ends or side edges to create at least one multi-colored output distribution [Figures 5, 7 – note the different characters].

47. Claims 76-79 are rejected under 35 U.S.C. 102(b) as being anticipated by Hegarty (U.S. Patent 5276591).

48. With regards to Claim 76, Hegarty discloses an optical assembly including:

- At least one light emitting panel member [Figures 1: (10); 3: (315)] having:

= At least one input edge [Figures 1: (130); 3: proximate (310)] for receiving light from at least one light source [Figures 1: (110); 3: (320)];

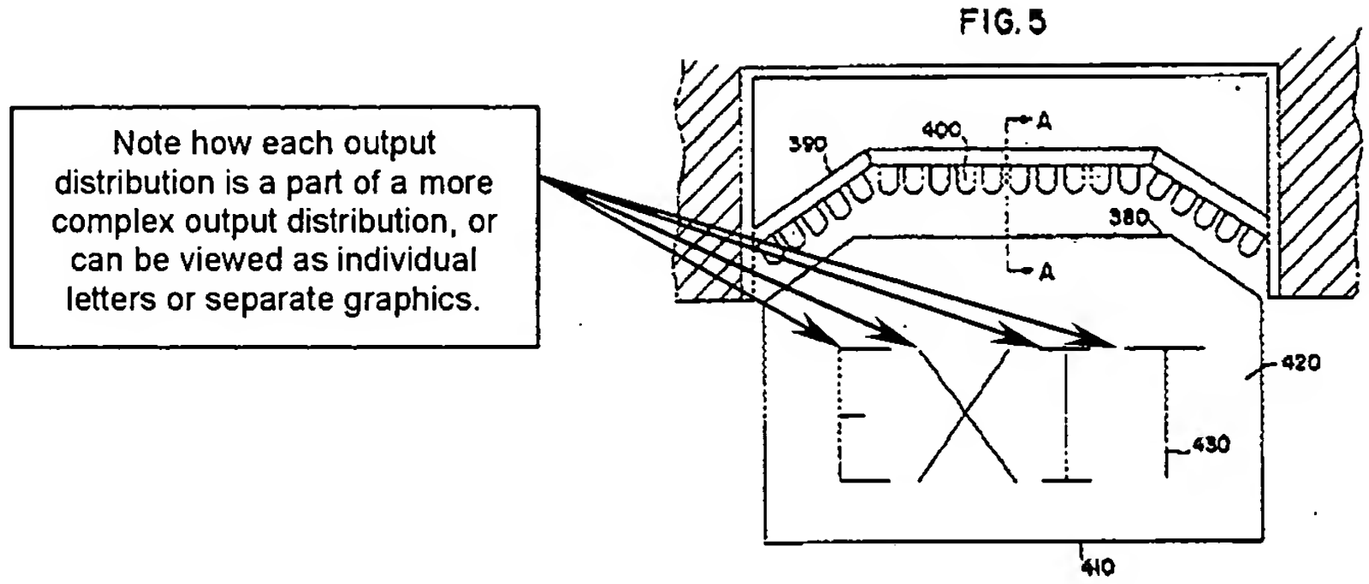
= At least one pattern of individual optical deformities [Figures 1: (50); 3: (285)] on or in at least one surface area of the panel member for producing at least one light output distribution from the panel member and having a form or shape of at least one of text, graphics, logo, or image [Figure 5]; and

= Another pattern of individual optical deformities [Figure 3: (290, 295)] on or in the opposite side of the at least one panel member that produces another light output distribution from the panel member having another form or shape of at least one of text, graphics, logo, or image [Figures 5, 7];

= Whereby each of the deformities has a length and width that is quite small in relation to the length and width of the panel member [Figures 5, 7].

49. With regards to Claim 77, Hegarty discloses the one output distribution and the another output distribution producing at least one composite light output distribution when view through the panel member from one side [Figure 5].

FIG. 5



50. With regards to Claim 78, Hegarty discloses the one output distribution and the another output distribution producing two separate and distinct output distributions when view through the panel member from one side [Figure 5 – note drawing above].

51. With regards to Claim 79. Hegarty discloses the one output distribution and the another output distribution being separately viewable throught he panel member from different angles from one side [Figure 5 – note drawing above].

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

52. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hegarty (U.S. Patent 5276591).

Hegarty discloses the claimed invention as cited above, but does not specifically teach the individual optical deformities of the pattern surround an outline of each element of the text, graphics, logo, or image.

However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate the optical deformities to surround an outline of each element of the text, graphics, logo, or image, since it has been held that rearranging parts of an invention involves only routine skill in the art. *In re Japiske*, 86 USPQ 70. In this case, providing an outline rather than filling the entirety of the text, graphics, logo, or image with the individual deformities could provide a more aesthetic appeal.

53. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hegarty (U.S. Patent 5276591) as applied to Claim 1 above, and further in view of Lan (U.S. Patent 5075826).

Hegarty discloses the claimed invention as cited above, but does not specifically teach the panel member including another light output distribution, whereby the at least one light output distribution is located in the another light output distribution of the panel member to create a watermark, security marking, label or other effect in the another output distribution having the form or shape of the text, graphics, logo, or image.

Lan teaches a panel member including another light output distribution [Figure 1: (13); e.g., the text, sun, trees, or water], and the at least one light output distribution [Figure 1: (13); e.g., text] being located in another light output distribution [Figure 1: (13); e.g., water] of the panel member to create a watermark, security marking, label or other effect in the another output distribution having the form or shape of the text, graphics, logo, or image.

It would have been obvious to one ordinarily skilled in the art at the time of invention to modify the panel member of Hegarty to incorporate the one light output distribution within another light output distribution, as taught by Lan, so as to accentuate the message or provide greater aesthetic appeal via placing one image within the context of another.

54. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hegarty (U.S. Patent 5276591) as applied to Claim 11 above, and further in view of Lan (U.S. Patent 5075826).

Hegarty discloses the claimed invention as cited above, but does not specifically teach the one output distribution being located in the another light output distribution of the panel member to create a watermark, security marking, label or other effect in the another output distribution having the form or shape of the text, graphics, logo, or image.

Lan teaches a panel member including another light output distribution [Figure 1: (13); e.g., the text, sun, trees, or water], and the at least one light output distribution [Figure 1: (13); e.g., text] being located in another light output distribution [Figure 1: (13); e.g., water] of the panel member to create a watermark, security marking, label or other effect in the another output distribution having the form or shape of the text, graphics, logo, or image.

It would have been obvious to one ordinarily skilled in the art at the time of invention to modify the panel member of Hegarty to incorporate the one light output distribution within another light output distribution, as taught by Lan, so as to accentuate

the message or provide greater aesthetic appeal via placing one image within the context of another.

55. Claims 27-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hegarty (U.S. Patent 5276591) as applied to Claim 26 above, and further in view of Pristash et al. (U.S. Patent 5005108).

56. With regards to Claim 27, Hegarty discloses the claimed invention as cited above, but does not specifically teach the display being a liquid crystal display.

Pristash teaches, "As will be apparent, the various thin panel illuminators disclosed herein may be used for a great many different applications, including for example general lighting, phototherapy treatment, and radiation curing of adhesives and epoxies and the like. Typical general lighting applications include *back lighting of liquid crystal displays or transparencies or the like*, task lighting, machine vision lighting, safety lighting for both commercial and industrial as well as automotive applications, explosion-proof lighting, underwater lighting, *display lighting* and infrared heating and the like [Column 8, Lines 13-31]."

It would have been obvious to one ordinarily skilled in the art at the time the invention was made to modify the optical assembly of Hegarty to incorporate the liquid crystal display, which is considered a matter of design choice as taught by Pristash.

57. With regards to Claim 28, Hegarty in view of Pristash discloses the claimed invention as cited above, but Hegarty does not specifically teach at least one light redirecting film between the display and one of the panel members that allows different

light output distributions to be seen when the panel members are viewed through the display from different angles.

However, Pristash teaches, "a second prismatic film may be placed in closely spaced relation to the panel prismatic surface to redirect the emitted light rays toward a particular application [Column 1, Lines 39-42]." It should be noted that the structural limitation with respect to the redirecting film being disposed between the display and panel member is a matter of design preference and optical effect, whereby the above references are considered functionally equivalent. It is also commonly held in the art that liquid crystal displays have a redirecting film disposed between the display and light guide/pipe.

In this case, it would have been an obvious matter to one ordinarily skilled in the art at the time the invention was made to modify the optical assembly of Hegarty to incorporate the redirecting/prismatic film of Pristash to provide a particular application/optical effect with respect to the illumination.

58. Claim 30 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hegarty (U.S. Patent 5276591) as applied to Claim 29 above, and further in view of Pristash et al. (U.S. Patent 5005108).

Hegarty discloses the claimed invention as cited above, but does not specifically teach at least one light redirecting film between the panel member and the display that allows different light output distributions to be seen when the panel members are viewed through the display from different angles.

Pristash teaches, "a second prismatic film may be placed in closely spaced relation to the panel prismatic surface to redirect the emitted light rays toward a particular application [Column 1, Lines 39-42]." It should be noted that the structural limitation with respect to the redirecting film being disposed between the display and panel member is a matter of design preference and optical effect, whereby the above references are considered functionally equivalent. It is also commonly held in the art that liquid crystal displays have a redirecting film disposed between the display and light guide/pipe.

In this case, it would have been an obvious matter to one ordinarily skilled in the art at the time the invention was made to modify the optical assembly of Lan to incorporate the redirecting/prismatic film of Pristash to provide a particular application/optical effect with respect to the illumination.

59. Claims 31-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hegarty (U.S. Patent 5276591) as applied to Claim 1 above, and further in view of Pristash et al. (U.S. Patent 5005108).

Hegarty discloses the claimed invention as cited above, but does not specifically teach at least one light redirecting film in close proximity to the at least one panel member that allows different light output distributions to be seen when the panel member is viewed through the film from different angles (re: Claim 31), nor said film being a prismatic, lenticular brightness enhancing, or light management film (re: Claim 32).

Pristash teaches, "a second prismatic film may be placed in closely spaced relation to the panel prismatic surface to redirect the emitted light rays toward a particular application [Column 1, Lines 39-42]." It should be noted that the structural limitation with respect to the redirecting film being disposed between the display and panel member is a matter of design preference and optical effect, whereby the above references are considered functionally equivalent. It is also commonly held in the art that liquid crystal displays have a redirecting film disposed between the display and light guide/pipe.

In this case, it would have been an obvious matter to one ordinarily skilled in the art at the time the invention was made to modify the optical assembly of Lan to incorporate the redirecting/prismatic film of Pristash to provide a particular application/optical effect with respect to the illumination.

60. Claim 48 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hegarty (U.S. Patent 5276591) in view of Schöniger et al. (U.S. Patent 5027258).

Hegarty discloses the claimed invention as cited above, but does not specifically teach the different colored light sources being flashed to produce a desired colored light output distribution.

Schöniger teaches, "The illuminating elements in the form of LED(s) may more especially be in different colors as required for advertising purposes so that by switching the elements on and off or dimming them it is possible to produce a large number of different colors and hues by mixing effects. It is also possible to associate different light guide battens with different parts of the light guide panel, such light guide battens

however respectively having a plurality of differently colored illuminating elements. As a result it is then possible to illuminate these different zones of the light guide panel in different variations in different colors, it also being possible to consider the dynamic lighting effects or the like [Column 3, Lines 22-35; underline added by examiner for correction]."

It would have been obvious to one ordinarily skilled in the art at the time the invention was made to modify the optical assembly of Hegarty to incorporate the different colored light sources with flashing, as taught by Schöniger, in order to provide a more ostentatious and aesthetically pleasing display.

61. Claim 51 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hegarty (U.S. Patent 5276591) as applied to Claim 45 above, and further in view of Lan (U.S. Patent 5075826).

Hegarty discloses the claimed invention as cited above, but does not specifically teach the one output distribution being located in the another light output distribution of the panel member to create a watermark, security marking, label or other effect in the another output distribution having the form or shape of the text, graphics, logo, or image.

Lan teaches a panel member including another light output distribution [Figure 1: (13); e.g., the text, sun, trees, or water], and the at least one light output distribution [Figure 1: (13); e.g., text] being located in another light output distribution [Figure 1: (13); e.g., water] of the panel member to create a watermark, security marking, label or

other effect in the another output distribution having the form or shape of the text, graphics, logo, or image.

It would have been obvious to one ordinarily skilled in the art at the time of invention to modify the panel member of Hegarty to incorporate the one light output distribution within another light output distribution, as taught by Lan, so as to accentuate the message or provide greater aesthetic appeal via placing one image within the context of another.

62. Claims 54-55 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hegarty (U.S. Patent 5276591) as applied to Claim 45 above, and further in view of Pristash et al. (U.S. Patent 5005108).

Hegarty discloses the claimed invention as cited above, but does not specifically teach at least one light redirecting film in close proximity to the at least one panel member that allows different light output distributions to be seen when the panel member is viewed through the film from different angles (re: Claim 54), nor said film being a prismatic, lenticular brightness enhancing, or light management film (re: Claim 55).

Pristash teaches, "a second prismatic film may be placed in closely spaced relation to the panel prismatic surface to redirect the emitted light rays toward a particular application [Column 1, Lines 39-42]." It should be noted that the structural limitation with respect to the redirecting film being disposed between the display and panel member is a matter of design preference and optical effect, whereby the above references are considered functionally equivalent. It is also commonly held in the art

that liquid crystal displays have a redirecting film disposed between the display and light guide/pipe.

In this case, it would have been an obvious matter to one ordinarily skilled in the art at the time the invention was made to modify the optical assembly of Lan to incorporate the redirecting/prismatic film of Pristash to provide a particular application/optical effect with respect to the illumination.

63. Claim 57 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hegarty (U.S. Patent 5276591) as applied to Claim 26 above, and further in view of Pristash et al. (U.S. Patent 5005108).

Hegarty discloses the claimed invention as cited above, but does not specifically teach the display being a liquid crystal display.

Pristash teaches, "As will be apparent, the various thin panel illuminators disclosed herein may be used for a great many different applications, including for example general lighting, phototherapy treatment, and radiation curing of adhesives and epoxies and the like. Typical general lighting applications include *back lighting of liquid crystal displays or transparencies or the like*, task lighting, machine vision lighting, safety lighting for both commercial and industrial as well as automotive applications, explosion-proof lighting, underwater lighting, *display lighting* and infrared heating and the like [Column 8, Lines 13-31]."

It would have been obvious to one ordinarily skilled in the art at the time the invention was made to modify the optical assembly of Hegarty to incorporate the liquid crystal display, which is considered a matter of design choice as taught by Pristash.

64. Claims 80-94 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hegarty (U.S. Patent 5276591) in view of Lan (U.S. Patent 5075826).

65. With regards to Claim 80, Hegarty discloses an optical assembly including:

- At least one light emitting panel member [Figures 1: (10); 3: (315)] having:
  - = At least one input edge [Figures 1: (130); 3: proximate (310)] for receiving light from at least one light source [Figures 1: (110); 3: (320)];
  - = At least one pattern of individual optical deformities [Figures 1: (50); 3: (285)] on or in at least one surface area of the panel member for producing at least one light output distribution from the panel member that is generally uniform and provides illumination for a display [Column 2, Lines 42-45; Column 3, Lines 25-29]; and
  - = Another light output distribution [Figure 3: (290, 295)] creating a watermark, security marking, label, or other effect [Figures 5, 7];
  - = Whereby each of the deformities has a length and width that is quite small in relation to the length and width of the panel member [Figures 5, 7].

Hegarty does not specifically teach the another light output distribution creating a watermark, security marking, label, or other effect being located in the one light output distribution of the panel member having the form or shape of text, graphics, logo, or image.

Lan teaches a panel member including another light output distribution [Figure 1: (13); e.g., the text, sun, trees, or water], and the at least one light output distribution

[Figure 1: (13); e.g., text] being located in another light output distribution [Figure 1: (13); e.g., water] of the panel member to create a watermark, security marking, label or other effect in the another output distribution having the form or shape of the text, graphics, logo, or image.

It would have been obvious to one ordinarily skilled in the art at the time of invention to modify the panel member of Hegarty to incorporate the one light output distribution within another light output distribution, as taught by Lan, so as to accentuate the message or provide greater aesthetic appeal via placing one image within the context of another.

66. With regards to Claim 81, Hegarty in view of Lan discloses the claimed invention as cited above. In addition, Hegarty teaches at least some of the optical deformities of the at least one pattern being varied in rotation and type [Figure 3: (285, 290, 295)].

67. With regards to Claim 82, Hegarty in view of Lan discloses the claimed invention as cited above. In addition, Hegarty teaches the panel member having at least two input edges [Figure 5: (380)] at different ends or side edges of the panel member for receiving light from at least two different light sources [Figure 5: (400)].

68. With regards to Claim 83, Hegarty in view of Lan discloses the claimed invention as cited above. In addition, Hegarty teaches the input edges receiving light from different colored light sources [Column 1, Lines 32-41], and at least some of the deformities [Figure 3: (285, 290, 295); Column 5, Lines 32-34] being shaped or oriented preferentially to cause the different colored light received by the different input edges to create at least one multi-colored output distribution [Figures 5, 7].

69. With regards to Claim 84, Hegarty in view of Lan discloses the claimed invention as cited above. In addition, Hegarty teaches the panel member having input edges [Figure 7: (470, 480)] at opposite ends of the panel member for receiving light at the opposite ends from at least two different light sources [Figure 7: (450)].

70. With regards to Claim 85, Hegarty in view of Lan discloses the claimed invention as cited above. In addition, Hegarty teaches the input edges at the opposite ends of the panel member receiving light from different colored light sources [Column 1, Lines 32-41], and at least some of the deformities being shaped or oriented preferentially to cause the different colored light received by the input edges at the opposite ends to create at least one multi-colored output distribution [Figures 5, 7].

71. With regards to Claim 86, Hegarty in view of Lan discloses the claimed invention as cited above. In addition, Hegarty teaches the input edges at the opposite ends of the panel member receiving light from different colored light sources [Column 1, Lines 32-41], and at least some of the deformities being shaped or oriented preferentially to cause the different colored light received by the input edges at the opposite ends to create at least two output distributions of different colors [Column 5, Lines 24-34].

72. With regard to Claims 87-88, Hegarty in view of Lan discloses the claimed invention as cited above. In addition, Hegarty teaches the panel member having front and back sides [Figure 3: (315)], wherein the at least one pattern of individual optical deformities are on or in the front and back sides of the panel member [Figure 3: (285, 290, 295)].

73. With regard to Claims 89-92, Hegarty in view of Lan discloses the claimed invention as cited above. In addition, Hegarty teaches the panel member having opposite sides [Figure 3], wherein the at least one pattern of individual optical deformities is on or in both sides of the panel member, the one and the other light output distributions are produced by the optical deformities on or in the opposite or same side(s) of the panel member, or at least part of at least the one and the other light output distributions being produced by the optical deformities are on or in the opposite sides of the panel member [Figure 3: (285, 290, 295)].

74. With regards to Claim 93, Hegarty in view of Lan discloses the claimed invention as cited above. In addition, Hegarty teaches the other light output distribution creating a logo in the one light output distribution when viewed through the display [Figures 5, 7; Column 1, Lines 42-45].

75. With regards to Claim 94, Hegarty in view of Lan discloses the claimed invention as cited above. In addition, discloses the panel member having opposite sides [Figure 8], and the display overlying one of the sides [Figure 8: (530)], whereby both the light output distribution and the other light output distribution are visible when viewed through the display from the one side [Figures 5, 7].

76. Claim 95 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hegarty (U.S. Patent 5276591) in view of Lan (U.S. Patent 5075826) as applied to Claim 94 above, and further in view of Pristash et al. (U.S. Patent 5005108).

Hegarty in view of Lan discloses the claimed invention as cited above, but does not specifically teach the display being a liquid crystal display.

Pristash teaches, "As will be apparent, the various thin panel illuminators disclosed herein may be used for a great many different applications, including for example general lighting, phototherapy treatment, and radiation curing of adhesives and epoxies and the like. Typical general lighting applications include *back lighting of liquid crystal displays or transparencies or the like*, task lighting, machine vision lighting, safety lighting for both commercial and industrial as well as automotive applications, explosion-proof lighting, underwater lighting, *display lighting* and infrared heating and the like [Column 8, Lines 13-31]."

It would have been obvious to one ordinarily skilled in the art at the time the invention was made to modify the optical assembly of Hegarty in view of Lan to incorporate the liquid crystal display, which is considered a matter of design choice as taught by Pristash.

77. Claims 96-100 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hegarty (U.S. Patent 5276591) in view of Lan (U.S. Patent 5075826).

78. With regards to Claim 96, Hegarty discloses an optical assembly including:

- At least one light emitting panel member [Figures 1: (10); 3: (315)] having:
  - = At least one input edge [Figures 1: (130); 3: proximate (310)] for receiving light from at least one light source [Figures 1: (110); 3: (320)];
  - = At least two patterns of individual optical deformities [Figure 3: (290, 295)] on or in at least one surface area of the panel member for producing at least one light output distribution from the panel member

that is generally uniform and provides illumination for a display [Column 2, Lines 42-45; Column 3, Lines 25-29]; and

= Another light output distribution [Figure 3: (285)] creating a watermark, security marking, label, or other effect [Figures 5, 7];

= Whereby at least some of the deformities have a length and width that is quite small in relation to the length and width of the one surface area of the panel member [Figures 5, 7].

Hegarty does not specifically teach the another light output distribution creating a watermark, security marking, label, or other effect being located in the one light output distribution of the panel member having the form or shape of text, graphics, logo, or image.

Lan teaches a panel member including another light output distribution [Figure 1: (13); e.g., the text, sun, trees, or water], and the at least one light output distribution [Figure 1: (13); e.g., text] being located in another light output distribution [Figure 1: (13); e.g., water] of the panel member to create a watermark, security marking, label or other effect in the another output distribution having the form or shape of the text, graphics, logo, or image.

It would have been obvious to one ordinarily skilled in the art at the time of invention to modify the panel member of Hegarty to incorporate the one light output distribution within another light output distribution, as taught by Lan, so as to accentuate the message or provide greater aesthetic appeal via placing one image within the context of another.

79. With regards to Claim 97, Hegarty in view of Lan discloses the claimed invention as cited above. In addition, Hegarty teaches at least some of the optical deformities of the at least one pattern being varied in rotation and type [Figure 3: (285, 290, 295)].

80. With regards to Claim 98, Hegarty in view of Lan discloses the claimed invention as cited above. In addition, Hegarty teaches the panel member having at least two input edges [Figure 5: (380)] at different ends or side edges of the panel member for receiving light from at least two different light sources [Figure 5: (400)].

81. With regards to Claim 99, Hegarty in view of Lan discloses the claimed invention as cited above. In addition, Hegarty teaches the input edges receiving light from different colored light sources [Column 1, Lines 32-41], and at least some of the deformities [Figure 3: (285, 290, 295); Column 5, Lines 32-34] being shaped or oriented preferentially to cause the different colored light received by the different input edges to create at least one multi-colored output distribution [Figures 5, 7].

82. With regards to Claim 100, Hegarty in view of Lan discloses the claimed invention as cited above. In addition, discloses the panel member having opposite sides [Figure 8], and the display overlying one of the sides [Figure 8: (530)], whereby both the light output distribution and the other light output distribution are visible when viewed through the display from the one side [Figures 5, 7].

83. Claim 101 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hegarty (U.S. Patent 5276591) in view of Lan (U.S. Patent 5075826) as applied to Claim 100 above, and further in view of Pristash et al. (U.S. Patent 5005108).

Hegarty in view of Lan discloses the claimed invention as cited above, but does not specifically teach the display being a liquid crystal display.

Pristash teaches, "As will be apparent, the various thin panel illuminators disclosed herein may be used for a great many different applications, including for example general lighting, phototherapy treatment, and radiation curing of adhesives and epoxies and the like. Typical general lighting applications include *back lighting of liquid crystal displays or transparencies or the like*, task lighting, machine vision lighting, safety lighting for both commercial and industrial as well as automotive applications, explosion-proof lighting, underwater lighting, *display lighting* and infrared heating and the like [Column 8, Lines 13-31]."

It would have been obvious to one ordinarily skilled in the art at the time the invention was made to modify the optical assembly of Hegarty in view of Lan to incorporate the liquid crystal display, which is considered a matter of design choice as taught by Pristash.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason M. Han whose telephone number is (571) 272-2207. The examiner can normally be reached on 8:00am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sandra O'Shea can be reached on (571) 272-2378. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JMH (9/23/2005)

Stephen Husar
Primary Examiner